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## General

The United Kingdom is located in Western Europe. The islands include the N one-sixth of the island of Ireland and lie between the North Atlantic Ocean and the North Sea, NW of France.

The climate is temperate being moderated by prevailing SW winds over the North Atlantic Current. More than half the days are overcast.

The terrain is mostly rugged hills and low mountains with level to rolling plains in the E and SE.

## Buoyage System

The IALA Buoyage System (Region A) is in effect. See Chart No. 1 for further IALA Buoyage System information.

The conventional direction of buoyage generally runs N along the W coast of the British Isles and through the Irish Sea, but locally follows the direction taken when approaching a harbor, river estuary or other waterway from seaward.

## Cautions

In conjunction with the establishment of GMDSS (Global Maritime Distress and Safety System), numerous medium frequency radiobeacons situated around the coasts of the United Kingdom will be discontinued on 1 February 1999.

## High Speed Craft

High speed craft now operate in many coastal areas of the United Kingdom. These craft usually operate on fixed routes and carry passengers, cars, and freight. They operate at speeds of 31 to 50 knots, which is considerably faster than other vessels.

These vessels carry no special identification signals and have no special privileges or obligations under COLREGS72. The high speeds of these vessels may increase the likelihood of hazardous situations and bring the risk of collision from unexpected directions.

High speed craft are reported (1998) to be in operation in the following areas:

1. Channel Islands-St. Malo, France.
2. Weymouth-Channel Islands.
3. Poole-Channel Islands.
4. Dover-Oostende, Belgium.
5. Folkestone-Boulogne, France.
6. Cairnryan-Larne, Ireland.
7. Newhaven-Dieppe, France.
8. Dover-Calais, France.
9. Stranraer-Belfast, Northern Ireland.
10. Liverpool-Dublin, Ireland.
11. Liverpool-Isle of Man/Belfast.
12. Fishguard-Rosslare, Ireland.
13. Holyhead-Dun Laoghaire, Ireland.

14. Harwich-Hoek van Holland, Netherlands.
15. Portsmouth-Cherbourg, France.
16. Portsmouth-Jersey.
17. Portsmouth-Isle of Wight.
18. Southampton-Isle of Wight.

## Currency

The official unit of currency is the British pound, consisting of 100 pence.

## Firing Areas

Firing and bombing practice takes place either occasionally or regularly in numerous areas established for those purposes along the coasts of practically all maritime countries.

In view of the difficulty in keeping these areas up to date on the charts, and as the responsibility to safety rests with the authorities using the areas for firing or bombing practice, these areas will not as a rule be shown on NIMA charts.

They will, however, in certain cases, be shown on NIMA charts covering the approaches to the United States Territorial waters. The National Ocean Service charts show firing and bombing practice areas as defined by the Code of Federal Regulations in United States waters. See U.S. Notice to Mariners No. 1. Any permanent aid to navigation that may be established to mark a danger area, any target, fixed or floating, that may constitute a danger to navigation, will be shown on the appropriate charts.

Warning signals, usually consisting of red flags or red lights, are customarily displayed before and during practice, but the absence of such warnings cannot be accepted as evidence that a practice area does not exist.

Vessels should be on the lookout for local warning and signals, and should whenever possible, avoid passing through an area in which practice is in progress, but if compelled to do so should endeavor to clear it at the earliest possible moment.

For details of selected firing or operating areas, see Section III of the Notice to Mariners.

Firing and bombing practices and other defense exercises in which warships, submarines and aircraft participation take place within approximately 40 miles of the English coast.

In view of the responsibility of range authorities to avoid accidents, limits of practice areas will not as a rule be shown on navigational charts or described in the Sailing Directions. They are, however, shown for British coastal waters on a series of six small scale charts called the PEXA series.

New editions of appropriate charts also include legends spanning the coastal extent of firing ranges. Such range beacons, lights, and marking buoys as may be of assistance to the mariner, or targets which might be a danger to navigation, will be indicated on navigational charts and, when appropriate, mentioned in Sailing Directions.

Details of types of practices and warning signals are given in the Annual Summary of British Admiralty Notice to Mariners of the current year.

The principal types of practices carried out are:

### 1. Bombing Practice from Aircraft

Warning signals usually shown.

### 2. Air to Air, and Air to Sea or Ground Firing

The former is carried out by aircraft at a large, usually colored, sleeve, a winged target, or flag towed by another aircraft moving on a steady course. The latter is carried out from aircraft at towed or stationary targets on sea or land, the firing taking place to seaward in the case of those on land.

As a general rule, warning signals are shown when the targets are afloat, but not when airborne towed targets are used.

### 3. Anti-Aircraft Firing

This may be from AA missiles, guns, or close weapons at a target towed by an aircraft as in 2 above, a pilotless target aircraft, or at balloons, pyrotechnics, or illuminance. Practice may take place from shore batteries or ships. Warning signals as a rule are shown from shore batteries. Ships fly a red flag.

### 4. Firing from Shore Batteries

The warning signals for firing from shore batteries or ships at sea at fixed or floating targets are usually shown as above.

### 5. At Remote-Controlled Craft

These craft carry "not under command" shapes and lights. Exercises consisting of surface firing by ships, practice bombing, and air to sea firing will be carried out against these craft or targets towed by them.

A control craft will keep visual and radar watch up to a distance of approximately 8 miles and there will be cover from the air over a much greater range to ensure that other shipping will not be endangered.

### 6. Rocket and Guided Weapons Firing

These may take the form of 2, 3, or 4 above. All such firings are conducted under Clear (Air and Sea) Range procedure. Devices are generally incorporated whereby the missiles may be destroyed should their flights be erratic.

Warning signals are usually shown as in 3 above.

Warning signals, when given, usually consist of red flags by day and red fixed or red flashing lights at night.

The absence of any such signal cannot, however, be accepted as evidence that a practice area does not exist.

Warning signals are shown from shortly before practice commences until it ceases.

Ships and aircraft carrying out night exercises may illuminate with bright colored flares. To avoid confusion with international distress signals, red or orange flares will be used in emergency only.

Marine craft operating as range safety craft, target towers or control launches for wireless controlled targets will display, for identification purposes, while in or in the vicinity of the danger area, some or all of the following:

1. Red flag at masthead.
2. International Code signal NE 4.
3. Display boards colored dayglow orange with black letters "RANGE SAFETY" on either side of the wheelhouse..
4. Dayglow orange cabin roof.

Royal Air Force target towing vessels display a red flag at the masthead and the signals for a vessel towing a tow over 200m in length.

A vessel may be aware of the existence of a practice area from PEXA charts, local Notices to Mariners or similar method of promulgation and by observing the warning signals or the practice.

The Range Authorities are responsible for ensuring that there should be no risk of damage from falling shell splinters, bullets, etc., to any vessel which may be in a practice area. If, however, a vessel finds itself in an area where practice is in progress, it should maintain course and speed; but, if it is prevented from doing this by the exigencies of navigation, it would assist the Range Authority if the vessel would endeavor to clear the area at the earliest possible moment. Furthermore, if projectiles or splinters are observed to be falling near the vessel, all persons on board should take cover.

Fishermen operating in the vicinity of firing practice areas may occasionally bring unexploded missiles or portions of them to the surface in their nets or trawls. These objects may be dangerous and should be treated with great circumspection and jettisoned immediately, no attempt being made to tamper with them or to bring them back for inspection by Naval Authorities.

### Promulgation

Areas are only in force intermittently or over limited periods, and local promulgation or warnings by radio, NAVTEX, visual signals, or Notices are such that they will come to the attention of those whose cooperation or instruction is intended.

Some broadcasting authorities around the UK broadcast information relating to Practice Range Safety.

Naval exercises carried out at night off the coasts of Britain and Ireland where firing will take place or vessels are liable to be encountered without lights, are broadcast in special warnings by coast radio stations.

### Fishing Areas

Trawling has, for many years, been one of the main harvesting techniques employed in the North Sea fishery.

Single trawlers may be met with anywhere off the coasts of the United Kingdom.

Care should be taken to pass a single trawler at a distance of at least 0.1 mile if passing to windward.

Pair trawlers, after streaming their net, take up station about 0.5 to 0.75 mile apart. Towing speed is about 2 knots. At no time should a vessel attempt to pass between pareja trawlers engaged in fishing.

Fleets of drifters present formidable navigational hazards in the North Sea and approaches to the British Isles. If possible, the prudent watch officer should alter course and go around the fleet. Actual fishing operations are conducted at night because the nets are close to the surface and hence visible to the fish during the day.

Mariners are advised to consider the characteristics of the fisheries described below and navigate with caution in these waters.

### Orkney Islands and Shetland Islands

Mariners are cautioned that concentrations of British drift net, ring net, trawl, pair trawl and purse seine vessels may be encountered, principally at night, in this area throughout the year. During the period from the end of April to mid-September large concentrations of drifters, trawlers, and purse seiners may be encountered within 25 miles, all around the Shetland Islands. From March to August, long line fishing may be encountered NW, N, NE, and E of the Shetland Islands.

During July and August, large concentrations of purse seiners, drifters, and trawlers may be encountered as far as 30 miles of the W side of the Orkney Islands. Long line fishing may be encountered in Stronsay and Westray Firths; off Stromness, during the spring; and W and NW of the Orkney Islands, from November to April.

### North and East Coasts of Scotland

The following are the approximate localities off the N and E coasts of Scotland where fishing vessels are most likely to be found at work.

Steam trawlers operate from Aberdeen, Granton, and Dundee. Off the N and E coasts of Scotland their fishing grounds lie mainly N, from 3 to 30 miles W of the Orkneys; and E from the parallel of Isle of May N, extending seaward from 3 miles offshore to the meridian of 30°E, although the more distant grounds, especially the SE, are less regularly and intensely fished.

British trawlers are not permitted to work in the Moray Firth area, within a line joining Duncansby Head and Rattray Head, but a few foreign trawlers are to be found there, especially in the early part of the year.

Other grounds fished off these coasts include a small area from 6 to 18 miles ESE of St. Abb's Head, the vicinity of Udsire Light, Norway, in the spring, and in the late autumn Great Fisher Bank (57°00'N., 4°00'E.). No seasonal concentration of the fleet as a whole takes place.

Steam vessels engaged in long-line, or great line fishing work mainly from Aberdeen. The larger vessels usually proceed to the edge of the continental shelf NW of Scotland or farther afield, but a few work off Cape Wrath and Farout Head on the N coast.

Operations in the North Sea, which are conducted by vessels of the steam drifter class mainly from April to September, inclusive, are usually confined to the area N of the parallel of 59°N, but are also carried on between the parallels of 57° and 59°N, and the meridians of 2° and 3°E, and in later summer on Great Fish Bank (57°00'N., 4°00'E.), and Jubilee Bank (57°10'N., 06°50'E.).

British vessels engaged in seine-net fishing for white fish work chiefly beyond the 3 mile limit in Moray Firth, and also off the coast of Angus and the NE coast of Fife, and the S side of Firth of Forth, smaller vessels in these latter areas being permitted to work inshore. Foreign seine-net vessels work chiefly in the vicinity of NW Ling Bank (58°15'N., 2°30'E.).

The warps used in hauling the seine are of considerable length, extending to as much as 1.4 miles on each side of the net, and the gear is so set before hauling that the warps and net together enclose the maximum triangular area.

British, Danish, Dutch, and Swedish fishing vessels, when actually fishing with seine nets, show the following distinctive signals:

1. By day—One black ball, basket, or shape, in the fore part of the vessel as near to the stem as possible, not less than 3m above the rail. One black cone, point upward, on the yardarm of the mizzen mast, on the side from which the net is being operated.

Dutch fishing vessels may use a triangle in place of a cone. Some Swedish fishing vessels, which have no mizzen mast, display the cone from the rigging on the side on which the nets are being operated.

2. By night—Three white lights in a triangle, the sides of which are approximately 1m, point upwards, from the yard on the side of the vessel from which the gear is leading. The signal is to be used in conjunction with the side lights when running the gear and without the side lights when hauling the gear. In neither case should the masthead light be shown.

3. Sound signals—Three long and one short blasts on the whistle when being approached by other vessels.

Vessels showing the above distinctive signals should therefore be given a wide berth by other vessels approaching.

Fishing by means of small and hand lines is conducted chiefly by motor boats, and small sailing craft, which work comparatively close inshore, usually confining their operations to within a radius of 20 miles at most of the numerous small harbors and creeks along the E coast to which they belong. Fishing is most intensive off the S side of Moray Firth, off the coast of Angus, and about the entrance to Firth of Forth.

Fishing by means of anchored ground nets, known as cod nets, is conducted chiefly in Moray Firth, mainly within 12 miles of the coast between Clyth Ness and Firth of Dornoch, from January to April, inclusive. Fishing on a smaller scale is simultaneously carried on off the SE coast of Fife.

Crab and lobster traps, known as "creels," are set by small motor and sailing boats on inshore and usually rocky grounds throughout the year, though to a greater extent during the summer than winter.

The fishing extends more or less along the whole coastline, but is most intensive from S of Aberdeen to Berwick, and along the N coasts.

The main herring fishing off the E coast of Scotland takes place between about the middle of May and the middle of September, operations being most intensive during June, July, and August.

The steam and motor drifters engaged work mainly from Wick, Fraserburgh, and Peterhead, and to a lesser extent from Macduff and Eyemouth, as well as from other ports chiefly in Moray Firth. The operations extend to a maximum of some 70 miles from their bases, to which they return daily.

Grounds W of the Orkneys are usually visited only in the early part of each season. Only exceptionally is fishing conducted within 10 miles or so of the coast.

Foreign drifters, which cure onboard and only return to their bases at approximately monthly intervals, work on North Sea grounds lying rather farther seaward off the Orkneys and E coast of Scotland, but overlapping the area worked by British vessels, especially off the Orkneys.

Fishing on a smaller scale is conducted chiefly by motor boats, but also by steam vessels, from the end of January to the beginning of April, off the SE coast of Fife outward to Isle of May and beyond, and also off the NE coast of East Lothian and Berwickshire.

During some winters fishing has taken place along the N coast of Scotland from December to February.

Herring seine, which is operated by motor boats working in pairs, is not used on these coasts except in Firth of Forth winter fishing, when landings are made at Newhaven or one of the Fife ports. The grounds worked lie mostly on the N side of the firth; from the end of December to February extending from W of the Forth bridge to about abreast Burntisland, and from the beginning of February to the end of March along the SE coast of Fife.

In Moray firth, from mid-July to the end of August, purse seiners, drifters, and trawlers may be encountered within 8 miles offshore from 58° to 58°30'N.

### West Coast of Scotland

Trawlers do not fish in fleets on the W coast of Scotland, but singly, or in groups of twos or threes. The vicinities of the W coasts of Islay and Skye are their favorite grounds.

Both steam and sailing trawlers are employed on this form of fishing, and in addition a modified form of trawling is prosecuted by motor boats in certain inshore areas.

Herring fishermen follow the movements of the herring shoals, which are uncertain, but they will generally be found in the areas given below.

Herring fishing is prosecuted in Firth of Clyde, chiefly by motor seine-net boats, practically throughout the year, the slack season being usually during the spring months.

Kilbrannan Sound and Kyle of Bute are, as a rule, the most productive of this fishery. Ballantrae Bank is also fished during the herring spawning season about the middle of February and beginning of March, but it is often interfered with by bad weather. The greatest concentration is at the S end of Arran and on Ballantrae Banks.

In the Minches, herring fishing is conducted throughout the year but the greatest concentration is from November to March. Purse seiners, drifters, ring netters and trawlers concentrate from the Butt of Lewis to Scalpay and from Cape Wrath to Rhu Re in the N Minch.

In the S Minch drifters, ringers, trawlers and purse seiners concentrate on the E side of S Uist and Barra.

During the spring months long-line fishing and cod net fishing are prosecuted to a limited extent off the Ayrshire and Renfrewshire coasts, and off Campbeltown, and long-line fishing in the Sea of the Hebrides.

During the spring and summer months white fish seining is prosecuted off the Ayrshire and Renfrewshire coasts. Long-line fishers are seldom in fleets.

The fisheries are the principal industry of Outer Hebrides, Castle Bay and Stornoway being the chief stations for the herring fishery, though at Loch Maddy, and at Scalpay, in the entrance to East Loch Tarbert, as well as at other places on the eastern side of Outer Hebrides, there are smaller stations, which vary in importance according to the results of the fishing.

### West Coast of England

During August, September, and October concentrations of up to 50 fishing vessels, principally working single boat trawls but also some pair beam trawlers and purse seiners, fishing between Chicken Rock and Douglas, operate generally within 6 miles of the coast.

During April and May, large concentrations of trawlers between N through W to SW and as far as 25 miles from Morecambe Bay Lightfloat, smaller concentrations may also be encountered during the period mid-August to October.

Vessels approaching all these areas are warned to keep a sharp look-out to avoid damage to vessels and nets.

Salmon drift nets and herring drift nets normally extend about 0.3 mile and 1.5 miles, respectively, on or just below the surface, ahead of and usually upwind from the fishing vessel which should, where possible, be passed to leeward.

If crossing the nets is absolutely unavoidable they should be crossed at right angles to the lay of the net with engines stopped in order to cause least damage.

Drifters may be encountered in large groups of as many as 200 or 300 boats, covering from 40 to 160 square miles, and should be avoided if possible. When lying at their nets, except in fine weather, their foremasts are lowered. Drifters often keep their foremasts lowered when underway.

A vessel should, if possible, avoid passing through a fleet of drifters. Even a single vessel may have considerable difficulty in doing so without damage to nets, because the nets of one boat lies so close to those of another that in maneuvering to pass the end of one line a vessel is very apt to find herself in the middle of another.

If forced by circumstances to cross a line of drift nets the least damage will be done by crossing them at right angles, midway between two of their buoys, at a fair speed. If possible, propellers should be stopped while passing over the nets.

The mere parting of a net does no great harm, but a revolving propeller may draw up the headline and net, thereby doing considerable damage.

Cases have been reported of large steamers having to be towed into port helpless after fouling drift-nets. Mackerel and pilchard nets are on the surface, and there is no means of avoiding them except by keeping clear of them.

At night, it should be remembered that the nets lie in the direction of the wind, with the drifter at their lee end, so if the latter is passed to leeward the vessel is bound to clear the nets.

When nets are being hauled at night powerful lamps are used on deck. Drifters carry very bright lights at night, usually visible 5 miles in clear weather.

The nets of British drifters are fished in fleets of 50 to 120 nets (usually about 80) extending 1 to 2.5 miles. The nets are suspended by strops from buoys, usually known as buffs, bowls, or pallets, the distance from the surface varying according to the type of fishing. In the case of herring drifting it is 2.7 to 3.7m. The extreme end of the fleet is marked by a buoy known as the pole end or end buoy, and there are intermediate buoys, one to each net, painted in the particular color favored by the owner.

These are at intervals of 35m, the quarter and half and three-quarters of the fleet being marked by buoys appropriately quartered in their painting. Foreign drifters now mostly employ the same type of gear, but generally shoot a larger number of nets extending sometimes 4 to 5 miles. In some cases nets of a heavier type are used. These are usually hung from a warp suspended from buoys at a depth of some 5.5m from the surface.

It should be noted that when shooting drift nets large foreign drifters are frequently navigated stern first; British drifters shoot before the wind with the mizzen sheet slacked out.

In places where drift-net fishing is being carried on, if two white lights are seen at night they probably belong to a drifter.

If a power or sailing vessel is seen by day with her foremast down and mizzen set, that vessel might be a drifter riding to the nets. The ends of the nets may or may not be specially marked with a staff and a flag, or a white float. It is best to avoid drifters altogether.

## Government

The United Kingdom is a constitutional monarchy. The capital is London.

## Holidays

The following holidays are observed:

England and Wales—Jan. 1, New Year's Day; Good Friday; Easter Monday; Spring Holiday (last Monday in May); August Bank Holiday (last Monday in August); Dec. 25, Christmas Day; and Dec. 26, Boxing Day.

Northern Ireland—Jan. 1, New Year's Day; March 17, St. Patrick's Day; Easter Monday; Easter Tuesday; July Holidays; August Holidays; Dec. 25, Christmas Day; and Dec. 26, Boxing Day.

Scotland—Jan. 1, New Year's Day and Dec. 25, Christmas Day. Some ports observe local dock holidays in the summer and fall. The August Bank Holiday occurs on the first Monday in August.

## Industries

The main industries are production machinery, railroad equipment, shipbuilding, vehicle manufacture, aircraft, electronics and communication equipment, metals, chemicals, coal, petroleum, paper products, food processing, textiles, clothing, pharmaceuticals, and other consumer goods. In addition, there is a large tourist industry.

## Languages

English is the official language. Welsh and Scottish forms of Gaelic are also spoken.

## Mined Areas

Practice minelaying and mine countermeasures exercises involving the laying of mines will be confined whenever possible to areas selected from those indicated below. Notification that an area is to be used will be by radio navigational warnings shortly before minelaying takes place. As brevity is essential in these methods of promulgation the areas will be defined in them by the serial letters and numbers of the minefields; however, when there is no serial letter and number, the area will be indicated by its name.

In the Eastern English Channel (X5062), North Channel (X5406), Kirkaldy Bay (X5611), and Approaches to Thames Estuary, areas have been established for the firing of Live Mine Disposal Charges (MDC). Notification that these areas are to be used will be by GUNFACTS broadcast by VHF at least 1 hour before firing takes place. Additional warnings will also

be broadcast 1 hour, 30 minutes, and immediately prior to detonation by the controlling unit on VHF channel 16.

In the Firth of Forth, Firth of Clyde, and Eastern English Channel areas, minesweeping corridors have been established. Normally, minesweeping operations will be confined to these corridors. Notification that these corridors are to be used will be made by radio warning shortly before the minesweeping takes place.

Mine clearance vessels may be required to operate in other areas, clear of shipping. In these cases, except as specified below, mines will not be laid and the vessels will show the lights or shapes prescribed in the International Regulations for Preventing Collisions at Sea. They will be restricted in their freedom to maneuver and may be operating divers within 0.5 mile of their position. Mariners are requested to observe the cautions promulgated in the paragraphs below. A harmless, non-explosive practice mine which lies on the bottom and may eject to the surface a green or white flare is now extensively used during Naval Exercises in Northern European waters.

These mines are sometimes laid outside the regular exercise areas and whenever they are, a radio warning in general terms will be broadcast but exact positions will not be given.

Ships engaged in mine countermeasures will show the lights or shapes prescribed in the International Regulations for Preventing Collisions at Sea. Other vessels should not approach closer than 0.5 mile. Minehunters normally work in conjunction with small boats or inflatable rubber dinghies from which divers may be operating or may be controlling a wire guided submersible. These may be up to 0.5 mile from the minehunter. By day, the dinghy will show Flag "A" of the International Code of Signals.

By night, small boats or inflatable dinghies operating divers will show the lights required by the International Regulations for Preventing Collisions. Mariners are requested to navigate with caution in the proximity of a minehunter, or small boat or inflatable dinghy operating in the vicinity of a minehunter, and to avoid passing within 1,000m whenever practicable.

Both minesweeping and minehunting operations require the ship engaged to lay small buoys, which are normally marked with a radar reflector and may have a numeral or alphabetical flag attached. By night, these buoys will have a green, white or red flashing light, visible all round the horizon for a distance of about 1 mile.

#### **X5059 Eastern English Channel Minesweeping Streaming Corridor**

Area enclosed by lines joining the following positions:

- a. 50 33.17'N, 0 53.32'W
- b. 50 32.83'N, 0 51.87'W
- c. 50 23.83'N, 0 57.27'W
- d. 50 24.17'N, 0 58.72'W

#### **X5060 Eastern English Channel Minesweeping Corridor**

Area enclosed by lines joining the following positions:

- a. 50 25.0'N, 1 35.0'W
- b. 50 25.0'N, 0 58.0'W
- c. 50 23.0'N, 0 58.0'W
- d. 50 23.0'N, 1 35.0'W
- e. 50 25.0'N, 1 18.5'W
- f. 50 23.0'N, 1 18.5'W

#### **X5061 Sandown Bay Minehunting Area**

Area enclosed by lines joining the following positions:

- a. 50 38.55'N, 1 03.00'W
- b. 50 38.55'N, 1 05.68'W
- c. 50 37.15'N, 1 07.50'W
- d. 50 36.84'N, 1 06.90'W
- e. 50 38.05'N, 1 05.32'W
- f. 50 38.05'N, 1 03.00'W

#### **X5062 Eastern English Channel Live MDC Firing Area**

Circular area, radius 2 miles, centered on 50 26.2'N, 1 00.0'W

#### **X5117 Outer Gabbard**

Area enclosed by lines joining the following positions:

- a. 51°49.5'N, 1°59.5'E.
- b. 51°51.0'N, 1°51.7'E.
- c. 51°58.7'N, 1°56.0'E.
- d. 51°59.1'N, 2°03.5'E.

#### **X5118 Gunfleet**

Area enclosed by lines joining the following positions:

- a. 51°55.2'N, 1°21.5'E.
- b. 51°51.2'N, 1°35.1'E.
- c. 51°46.5'N, 1°30.3'E.
- d. 51°41.2'N, 1°20.0'E.
- e. 51°44.8'N, 1°07.4'E.

Then 1.5 miles to seaward of the HW line to a above.

#### **X5119 Kentish Knock**

Area enclosed by lines joining the following positions:

- a. 51°45'N, 2°00'E.
- b. 51°30'N, 1°50'E.
- c. 51°30'N, 1°35'E.
- d. 51°45'N, 1°45'E.

#### **X5120 South Galloper**

Area enclosed by lines joining the following positions:

- a. 51°45'N, 2°00'E.
- b. 51°45'N, 2°20'E.
- c. 51°30'N, 2°10'E.
- d. 51°30'N, 1°50'E.

#### **X5121 North Galloper**

Area enclosed by lines joining the following positions:

- a. 51°45'N, 2°00'E.
- b. 52°00'N, 2°10'E.
- c. 52°00'N, 2°30'E.
- d. 51°45'N, 2°20'E.

#### **X5406 North Channel Live MDC Firing Area**

Area enclosed by a line joining the following positions:

- a. 54°55.5'N, 5°11.9'E.
- b. 54°55.5'N, 5°13.7'E.
- c. 54°56.6'N, 5°13.7'E.
- d. 54°56.6'N, 5°11.9'E.

**Note.**—This area is in almost daily use.

#### **X5500 Campbeltown (Amphibious Task Force Anchorage)**

Area enclosed by a line joining the following positions:

- a. 55°23.8'N, 5°29.0'W.
- b. 55°23.8'N, 5°26.5'W.

- c. 55°23.2'N, 5°26.5'W.
- d. 55°23.2'N, 5°28.0'W.
- e. 55°23.0'N, 5°28.0'W.
- f. 55°23.0'N, 5°29.0'W.

**X5551 Clyde Minesweeping Corridor Alpha**

Area enclosed by lines joining the following positions:

- a. 55 40.19'N,4 56.08'W
- b. 55 40.38'N,4 54.35'W
- c. 55 37.00'N,4 53.22'W
- d. 55 28.20'N,4 53.22'W
- e. 55 28.20'N,4 55.00'W
- f. 55 37.00'N,4 55.00'W

**X5552 Clyde Minesweeping Corridor Bravo**

Area enclosed by lines joining the following positions:

- a. 55 28.20'N,4 55.00'W
- b. 55 28.20'N,4 53.22'W
- c. 55 25.23'N,4 53.22'W
- d. 55 17.11'N,5 02.13'W
- e. 55 17.64'N,5 03.62'W
- f. 55 25.50'N,4 55.00'W

**X5553 Clyde Minesweeping Corridor Charlie**

Area enclosed by lines joining the following positions:

- a. 55 46.10'N,5 15.25'W
- b. 55 46.60'N,5 13.60'W
- c. 55 45.20'N,5 12.45'W
- d. 55 41.90'N,5 04.00'W
- e. 55 41.61'N,4 56.60'W
- f. 55 40.60'N,4 56.65'W
- g. 55 40.90'N,5 04.50'W
- h. 55 44.60'N,5 14.00'W

**X5554 Campbeltown North**

Area enclosed by lines joining the following positions:

- a. 55 20.86'N,5 21.58'W
- b. 55 20.82'N,5 20.88'W
- c. 55 20.30'N,5 20.81'W
- d. 55 20.34'N,5 21.51'W

**X5555 Campbeltown Middle**

Area enclosed by lines joining the following positions:

- a. 55 19.80'N,5 21.48'W
- b. 55 19.75'N,5 20.78'W
- c. 55 19.32'N,5 20.72'W
- d. 55 19.37'N,5 21.40'W

**X5556 Campbeltown South**

Area enclosed by lines joining the following positions:

- a. 55 14.90'N,5 21.59'W
- b. 55 14.94'N,5 20.95'W
- c. 55 14.40'N,5 20.86'W
- d. 55 14.36'N,5 21.50'W

**Loch Fyne (Area Gleaner)**

Area enclosed by lines joining the following positions:

- a. 56 11.50'N,5 05.20'W
- b. 56 12.02'N,5 04.80'W
- c. 56 12.45'N,5 04.30'W

**Loch Fyne (Area Ulf)**

Area enclosed by lines joining the following positions:

- a. 56 13.50'N,5 03.20'W
- b. 56 12.70'N,5 05.00'W
- c. 56 10.71'N,5 05.70'W
- d. 56 10.00'N,5 06.60'W

**X5557 Jura Sound Deep Field North**

Area enclosed by lines joining the following positions:

- a. 55 53.80'N,5 45.90'W
- b. 55 52.90'N,5 43.30'W
- c. 55 51.40'N,5 45.00'W
- d. 55 51.70'N,5 48.10'W

**X5558 Campbeltown Loch**

Area enclosed by a line joining the following positions:

- a. 55 25.2'N,5 35.1'W
- b. 55 25.3'N,5 33.9'W
- c. 55 25.1'N,5 33.9'W
- d. 55 24.9'N,5 35.0'W

**X5559**

Area enclosed by lines joining the following positions:

- a. 55 22.69'N,5 28.49'W
- b. 55 22.69'N,5 24.99'W
- c. 55 20.69'N,5 24.99'W
- d. 55 20.69'N,5 28.49'W

**X5611 Kirkcaldy Bay**

Area enclosed by lines joining the following positions:

- a. 56 04.43'N,3 02.60'W
- b. 56 05.40'N,3 05.70'W
- c. 56 06.08'N,3 05.20'W
- d. 56 08.45'N,3 00.70'W
- e. 56 08.03'N,2 56.90'W
- f. 56 05.13'N,2 59.20'W

The live MDC Firing Area within X5611 is a circular area, radius 1 mile, centered on 56 07.3'N, 2 59.5'W

**X5612 Aberlady Bay**

Area enclosed by lines joining the following positions:

- a. 56 00.3'N,3 03.4'W
- b. 56 00.3'N,2 58.0'W
- c. 55 59.3'N,2 58.0'W
- d. 55 59.3'N,3 03.4'W

**Note.**—This area is used for minehunting exercises only.

**X5615 Forth Deep**

Area enclosed by lines joining the following positions:

- a. 56 07.5'N,2 22.0'W
- b. 56 07.5'N,2 27.5'W
- c. 56 14.0'N,2 27.5'W
- d. 56 14.0'N,2 22.0'W

**X5625 Anstruther**

Area enclosed by lines joining the following positions:

- a. 56°12.0'N, 2°41.5'W.
- b. 56°14.2'N, 2°36.5'W.
- c. 56°12.5'N, 2°34.0'W.
- d. 56°10.9'N, 2°36.9'W.

**X5637 Firth of Forth Minesweeping Corridor**

The area 0.5 mile on either side of a line joining the following positions:

- a. 56 07.5°N, 2 30.0°W
- b. 56 07.5°N, 2 42.0°W
- c. 56 05.5°N, 2 50.0°W

**X5638 Firth of Forth Minesweeping Corridor**

The area 0.5 mile on either side of a line joining the following positions:

- a. 56 14.50°N, 2 33.15°W
- b. 56 07.50°N, 2 42.00°W

**X5639 Coulport South**

Area bounded by lines joining the following positions:

- a. 56 03.92°N, 4 52.77°W
- b. 56 03.85°N, 4 52.56°W
- c. 56 03.58°N, 4 52.58°W
- d. 56 03.65°N, 4 53.00°W
- e. 56 03.78°N, 4 52.90°W

**X5640 Coulport North**

Area bounded by lines joining the following positions:

- a. 56 04.25°N, 4 52.45°W
- b. 56 04.24°N, 4 52.38°W
- c. 56 04.14°N, 4 52.38°W
- d. 56 04.15°N, 4 52.55°W

**Pilotage**

Each port of the United Kingdom has its own pilotage, the details of which are given in the appropriate volume of Sailing Directions (Enroute).

Most pilot stations and pilot vessels or boats are equipped with radiotelephone and maintain a continuous watch on standard call frequencies.

A vessel requiring a pilot should give an estimated time of arrival together with the gross tonnage, maximum draft, and port of destination, preferably 12 hours in advance and through a coast radio station.

Any adjustment to this time should be given at least 2 hours before arrival. If possible vessels should remain in radio contact to facilitate embarkation of the pilot. Shore pilot stations operate on VHF only.

The sound signal to be sounded by vessels requiring a pilot in thick weather is the letter G in Morse code.

When pilot vessels cruise on station, they will sound on their whistles or fog horns, the letter H in Morse code in thick weather.

Vessels requiring a licensed Deep Sea Pilot for the English Channel, North Sea or Skagerrak should send the request to one of the following stations:

1. Deep Sea and Coastal Pilots, Greenhihe.
2. Dirkzwager's Coastal Pilotage, Maassluis.
3. George Hammand Marine Services Division.
4. Antwerp Deep Sea Pilot services.
5. Brixham (Torbej).

The following pilot authorities can also provide Deep Sea Pilotage:

1. Clyde Pilots.
2. Dunkerque Deep Sea Pilots.

3. Gravesend Pilot Station.
4. Haven Ports Pilotage Service.
5. German Deep Sea Pilots, Die Elbe or Die Weser.
6. Cherbourg Deep Sea Pilots.

For details see the appropriate volume of Sailing Directions (Enroute). As much notice as possible should be given to the pilotage agency.

**Regulations**

The Ministry of Defence has stated that should it become necessary to control the entrance of ships into, and the movement of ships within, certain ports under its control in the United Kingdom, the signals described below will be displayed.

These signals will be shown from some conspicuous position in or near the approaches to the ports concerned, and may be displayed also by an Examination or Traffic Control Vessel operating in the approaches. The signals and their meanings are:

1. Entrance to the port prohibited:
  - a. By day—Three red balls disposed vertically.
  - b. By night—Three red flashing lights disposed vertically and visible all round the horizon.
2. Entrance to the port permitted:
  - a. By day—No signal.
  - b. By night—Three green lights disposed vertically and visible all round the horizon.
3. Movement of shipping within the port or anchorage prohibited:
  - a. By day—A blue flag.
  - b. By night—Three lights, red, green, red, disposed vertically and visible all round the horizon.

The lights described above, when exhibited by Examination Vessels, will be carried in addition to their ordinary navigation lights. Masters of vessels are warned that should they approach the entrance to a port which is being controlled by the Ministry of Defense, they should not enter a declared "Dangerous Area," or close boom defenses, without permission, nor should they anchor or stop in a "Dangerous Area" or prohibited anchorage unless instructed to do so.

Masters are advised therefore to communicate with any government or port authority vessel found patrolling in the offing to ascertain the recommended approach route to the port.

**Examination Service**

In certain circumstances it may be necessary to take special measures to examine, or to establish the identity of, individual vessels desiring to enter ports and to control their entry.

This is the function of the Examination Service, whose officers will be afloat in Examination vessels or Traffic Control vessels.

These vessels will wear the distinguishing flags of the Examination Service, which are:

1. The Examination Service special flag consisting of a blue border with red and white squared center.
2. The Blue Ensign, or occasionally the White Ensign.

If ordered to anchor in an Examination anchorage, masters are warned that it is forbidden, except for the purposes of



avoiding accident, to do any of the following without prior permission being obtained from the Examining Officer:

1. To lower any boat.
2. To communicate with the shore or with any other ship.
3. To weigh the anchors.
4. To allow any person or thing to leave the ship.

The permission of the Home Office Immigration Officer must be obtained before any passenger or member of the crew who has embarked outside the United Kingdom is allowed to land. Nothing in the above paragraphs is to be taken as overruling any regulations issued by local authorities at particular ports or by routing authorities.

### **Merchant Shipping Regulations of 1995—Reporting Requirements for Vessels Carrying Dangerous and Polluting Goods**

These regulations apply to all vessels carrying dangerous or polluting cargo. This includes oil tankers, chemical tankers, gas carriers, and all vessels carrying dangerous or polluting packaged cargo (includes cargo vessels, container vessels, offshore supply vessels, passenger vessels, ferries, etc.).

Bunkers, stores, and equipment for use on board a vessel are not regarded as dangerous or polluting goods for the purpose of these regulations.

Operators of all vessels entering or leaving United Kingdom ports shall provide, via the agent, information to the Coastguard, as follows:

1. Vessel name and call sign.
2. Nationality.
3. Length and draft (in meters).
4. Port of destination.
5. ETA at port of destination or pilot boarding position.
6. ETD.
7. Intended route.

The correct technical name of the dangerous and polluting goods; the United Nations numbers where they exist; the IMO hazard class in accordance with the IMDG, IBC, and IGC codes; the quantities of such goods and their location on board; and, if in portable tanks or freight containers, their identification marks.

The master of the vessel must provide the following information to the pilot, or the harbor authority if the master is the pilot:

1. Vessel identification.
2. Details of safety equipment on board.
3. State of safety certificates and other documents.
4. Details of officer and crew certificates of competence.

### **Dangerous Substances in Harbor Areas Regulations**

The regulations concern the marking, movements, and berthing of vessels with dangerous substances embarked.

They define the various substances and require that the Harbormaster be given notice of the entry of such substances into the harbor area.

The Harbormaster is empowered to prohibit or remove any dangerous substance, which in his opinion is a risk to health or safety. Copies of these regulations may be obtained from HM Stationery Office.

### **Reporting Systems**

The English Channel and Dover Strait Movement Report System (MAREP) is a voluntary reporting system which applies to the following vessels:

1. All merchant vessels of 300 grt and over.
2. Any vessels "not under command" or at anchor in a Traffic Separation Scheme (TSS) or an Inshore Traffic Zone (ITZ).
3. Any vessel "restricted in its ability to maneuver."
4. Any vessel with defective navigational aids.

The reporting area is bound, as follows by:

1. A line between the SW Lanby (48°30'N., 5°50'W.) and Bishop Rock Light (49°50'N., 6°21'W.).
2. A line joining North Foreland (51°22'N., 1°28'E.) to the Belgian coast through Mid Falls lighted buoy (51°19'N., 1°47'E.).

Vessels should report to the appropriate shore station, as follows:

1. The TSS off Ouessant—10 miles before entering the TSS or the associated ITZ.
2. The TSS off Casquets—10 miles before entering the TSS or the associated ITZ.
3. The TSS in the Strait of Dover and adjacent waters:
  - a. Eastbound vessels—2 miles before crossing a line joining Royal Sovereign Light Tower (50°43'N., 0°26'E.) to the French coast through Bassurelle Lighted Buoy (50°33'N., 0°58'E.).
  - b. Southwestbound vessels—2 miles before crossing a line joining North Foreland to the Belgian coast through Mid Falls Lighted Buoy.
  - c. On departure from a port within the ITZ.

In addition, vessels should maintain a continuous listening watch on VHF channel 16, on VHF channel 80 for Jobourg Traffic, and, if possible, on the main calling frequencies of the relevant shore stations.

Vessels with no defects should send a Position Report (POSREP). Vessels with defects (not under command, restricted in their ability to maneuver, defective navigational aids, etc.) should send a Defect Report (DEFREP). If necessary, a subsequent amending report (CHANGERE) should be sent.

All reports should be made in English and the following details should be given, as appropriate, prefixed MAREP and followed by POSREP, DEFREP, or CHANGERE, as appropriate:

Designator	Information Required
ALFA	Name and call sign of vessel.
BRAVO	Day of month (2 figures) and time in hours and minutes (UT/GMT in 4 figures).
CHARLIE	Latitude (4 figures N or S) and longitude (5 figures E or W).
DELTA	True bearing (3 figures) and distance in miles (2 figures) from identified sea or landmark.
ECHO	True course in degrees (3 figures).

Designator	Information Required
FOXTROT	Speed in knots and tenths of knots (3 figures).
GOLF	Last port of call.
INDIA	Destination.
MIKE	VHF channel monitored.
OSCAR	Deepest draft, in meters and centimeters.
PAPA	Type and quantity of cargo.
QUEBEC	Brief details of damage, deficiencies, or other limitations (Omit if nothing to report).
XRAY	Any other useful information (Omit if nothing to report).

These reports should be made to the following designated shore stations:

TSS	MAREP Receiving Station	VHF Channel
Ouessant (Ushant)	Ouessant Traffic	13, 79
Casquets	Jobourg Traffic Portland Coastguard	13, 80 16, 69
Dover Strait	Griz Nez Traffic Dover Coastguard	13, 79 16, 69

Information broadcasts, which are preceded by an announcement on VHF channel 16, are made in English and French as follows:

Station	VHF Channel	Clear Visibility	Restricted Visibility
Ouessant Traffic	79	H+10 H+40	H+10 H+40
Jobourg Traffic	80	H+20 H+50	H+20 H+50
Griz Nez Traffic	79	H+10	H+25
Dover Coastguard	11	H+40 (English only)	H+55

Restricted visibility means when visibility is less than 2 miles.

These broadcasts contain navigational and traffic information on movements of vessels which appear to be navigating within a TSS contrary to the requirements of Rule 10 of the International Collision Regulations (72 COLREGS).

Urgent information will be broadcast at any time as necessary.

**Note.**—CALDOVREP, a mandatory reporting system under SOLAS regulations, has been established (1999) in a 65-mile stretch of the Dover Traffic Separation Scheme (TSS).

CORSEN-OUESSANT, a Vessel Traffic Service (VTS) system, has been established in the W approaches to the English Channel. It is a mandatory reporting system under SOLAS regulations and operates within an area with a radius

of 35 miles centered on Ile d'Ouessant. Special IMO provisions have also been established for vessels using the Traffic Separation Scheme (TSS) situated off Ouessant (Ushant).

The Channel Navigation and Information Service (CNIS) operates from Dover Strait Coast Guard and CROSSMA Griz Nez. The broadcasts include information concerning traffic, navigation, and visibility.

For further details of these reporting systems and regulations, see Pub. 191, Sailing Directions (Enroute) English Channel.

An automatic ship identification and ship reporting system (AIRS) has been established to monitor the movements of vessels around the British Isles including the Dover Strait. The system utilizes the capability of the VHF DSC installations adopted for the Global Marine Distress and Safety System (GMDSS).

## Search and Rescue

The radio watch on the international distress frequencies which certain classes of ships are required to keep when at sea is one of the most important factors in the arrangements for the rescue of people in distress at sea.

Since these arrangements must often fail unless it is possible for ships to alert each other or to be alerted from shore for distress action, every ship fitted with suitable radio equipment should make its contribution to safety by guarding one or other of these distress frequencies for as long as is practicable whether or not required to do so by regulation.

To supplement the efforts of ships at sea most maritime countries maintain a life-saving service for the rescue of people in distress around their coasts.

The organization of SAR measures varies from country to country, but coast radio stations always play an important part by guarding the international distress frequencies so that in the event of a distress signal being heard they can alert ships in the vicinity of the casualty and notify the proper shore authorities.

When a ship or aircraft is in distress off the coasts of the United Kingdom, assistance may be given not only by ships in the vicinity, but also by the following authorities:

1. HM Coastguard, which is the authority responsible for initiating and coordinating all civil maritime search and rescue measures for vessels and persons in need of assistance in the United Kingdom Search and Rescue Region (UK SRR).

2. The area corresponds with the International Civil Aviation Organization (ICAO). The UK SRR approximates closely to that which can be reached by long-range aircraft capable of operating up to 1,000 miles from shore and is bounded by latitude 45° and 61°N, by longitude 30°W and by the adjacent European SRRs.

3. The area is further subdivided into six maritime search and rescue regions under the authority of a Regional Controller operating from a Maritime Rescue Coordination Center (MRCC). The UK SRR surrounds the "Shannon" area which is the responsibility of the Republic of Ireland.

Each HM Coastguard SRR contains several Maritime Rescue Sub-Centers (MRSC).

Search and Rescue services which HM Coastguard can call upon the UK SRR comprise "declared" facilities which are

available at short notice and which include military and some civil rotary and fixed wing aircraft and lifeboats of the Royal National Lifeboat Institution (RNLI) as well as additional facilities which include vessels which happen to be available and respond at the time.

The organization is based upon a constantly manned watch system at 21 MRCC/SCs, which together give coverage of UK coastal waters. Within each of the 21 districts associated with MRCC/SCs there is an organization of Auxiliary Coastguard Response Teams grouped within Sectors under the management of regular HM Coastguard Officers.

There are about 90 sectors, in each of which are several Auxiliary Coastguard stations. Appropriate scales of rescue equipment are maintained at all stations.

The HM Coastguard is responsible for the integrity of VHF channel 16, the VHF International Distress, urgency, Safety and calling frequency. Accordingly, HM Coastguard MRCC/SCs guard VHF channel 16 continuously and are required to acknowledge any distress messages immediately and to act upon them.

HM Coastguard provides coverage on VHF in the UK coastal waters out to 30 miles using remote radio sites. An additional agreement has been reached with some offshore oil/gas operators to install remote radio sites on some North Sea installations.

Distress watch on 2182 kHz is maintained by MRCC/SCs at Shetland, Pentland, Aberdeen, Tyne Tees, Yarmouth, Brixham, Falmouth, Holyhead, Clyde and Stornoway. Other MRCC/SCs monitor this frequency as required.

As part of the GMDSS MF distress watch on DSC frequency 2187.5 kHz is undertaken through MRCC/SCs at Falmouth, Milford Haven, Holyhead, Clyde (Tieree), Stornoway, Shetland, Aberdeen, Tyne Tees and Humber.

All MRCC/SCs also keep a continuous telephone and telex watch and have a VHF Direction Finding capability. MRCC Dover, which is also the station responsible for the Channel Navigation Information Service (CNIS), operates a radar surveillance system and maintains a constant liaison with its French counterpart at Cap Nez in monitoring the traffic flow through the Dover Strait.

Regular broadcasts are made at 40 minutes past each hour on VHF channel 11, with additional broadcasts in poor visibility or as circumstances dictate. CNIS operates an aircraft to identify vessels which may appear not to be complying with the International Regulations for Preventing Collision at Sea, 1972. All its facilities are available for SAR operations or other maritime emergencies. MRCC Dover and MRSC Portland are also "reporting in" stations for ships operating the Ship Movement Reporting System (MAREP).

Vessels may also make voluntary Position and Intended Movement reports to MRCC Falmouth and MRSCs Shetland, Pentland and Stornoway when on passage through their areas of responsibility. In addition to regional responsibilities, MRCC Falmouth plays an important role in the GMDSS established by the IMO. MRCC Falmouth is the UK link into the International SAR Satellite System and maintains links with foreign MRCCs to resolve incidents which may occur worldwide. HM Coastguard operates SAR helicopters based at Sumburgh in the Shetland Isles Stornoway, Lee on Solent and Portland.

The Royal Air Force operates SAR fixed wing aircraft and helicopters which are controlled through its two Air Rescue Coordination Centers at Kinloss and Plymouth.

It is responsible for coordinating and controlling rescues on behalf of service and civil aviation in the UK SRR.

It also provides resources for civil maritime SAR in the form of fixed wing aircraft and helicopters.

The Royal Navy operates SAR helicopters from two Royal Naval Air Stations. Royal Naval ships and aircraft, including non-SAR helicopters, also assist casualties.

The Royal National Lifeboat Institution, which is a private organization supported entirely by voluntary contributions, maintains 123 all-weather lifeboats around the coast of the United Kingdom, the Republic of Ireland, the Isle of Man and the Channel Islands.

In addition, it has an operational fleet of three intermediate lifeboats and 163 inshore lifeboats, providing lifeboat cover up to 50 miles from the coast. Every all-weather lifeboat is equipped with MF and VHF/FM radio and in addition MF and VHF direction finding equipment.

When launched on service an offshore lifeboat maintains listening watch on 2182 kHz and VHF channel 16 and can make use of these and other working frequencies if necessary, for direct speech to other vessels, SAR aircraft, Coastguard, coast radio stations, and certain harbor and other authorities concerned with SAR operations.

The coxswain of the lifeboat is kept informed by radio telephone either directly from the Coastguard or through the appropriate coast radio station.

The intermediate lifeboats carry VHF direction-finding equipment and all intermediate and inshore lifeboats are fitted with VHF/FM radio.

All-weather lifeboats, intermediate lifeboats and the larger inshore lifeboats of the Royal National Lifeboat Institution are now fitted with a quick flashing blue light exhibited from the masthead showing at least 120 flashes every minute.

A number of stations keep a continuous watch on the distress frequency of 500 kHz.

Portishead long distance radio station, with practically a worldwide range, keeps watch on certain high frequency bands.

When a radio distress signal is received by a coast radio station, it is transmitted on all distress frequencies to ships at sea and various authorities ashore are also notified, including HM Coastguard who initiate the appropriate SAR measures. Radio distress calls and distress traffic have absolute priority.

During a distress incident no transmissions are allowed from any radio station which may interfere with the transmission or reception of signals connected with the rescue, the only exception being messages from or to any other ships overtaken by distress during the same period.

Air Traffic Control Centers are often the first to receive information about aircraft in distress. All commercial and many private aircraft are able to communicate with these centers by radio, and, in certain circumstances, are obligated to do so.

They may be requested to assist in the search for a casualty at sea by keeping a look out along or near their normal routes, by reporting the position of the casualty if they should find it and, if possible, by guiding ships to the rescue.

Lloyd's, who are informed of casualties by the coast radio stations and HM Coastguard, are responsible for notifying ocean tugs.

Local officers of the Fishery Departments communicate with the Coastguard when reports are received of fishing vessels which are missing or overdue.

The SAR action taken when a casualty occurs or is imminent depends on whether a ship or aircraft is involved, its position and the circumstances.

### Marine Casualties within UK SRR

If a ship in distress transmits a distress call other ships must proceed to her assistance. The coast radio station hearing the distress will rebroadcast it on all distress frequencies, to alert any radiotelegraph and radiotelephone ships in the area, and will inform its Coastguard Radio Liaison Station (CRLS) and Lloyd's. The CRLS will decide which MRCC or MRSC should coordinate SAR action, and will ensure that the Coast radio station works through that MRCC or MRSC until the incident is concluded.

The latter will take immediate action to request assistance for Search and Rescue, as required, from:

1. The ARCCs at Kinloss or Plymouth who can call upon RN warships and helicopters, and RAF fixed-wing aircraft and helicopters.
2. Royal National Lifeboat Institution Lifeboats, if the casualty is within their operating range.
3. Shipping in the area of the casualty.
4. The Automated Mutual-Assistance Vessel Rescue System (AMVER) Center in New York to establish which ships may be in the vicinity of the casualty.

The MRCC or MRSC will coordinate SAR action until a successful conclusion, or until search is called-off, keeping all participants, including foreign SAR authorities where necessary, informed. The coast radio station will monitor and rebroadcast all distress messages received from the casualty. Tug companies, on being alerted by Lloyd's, may send tugs.

### Vessels Close to the Coast

HM Coastguard may be informed of an actual or imminent distress situation by VHF or MF radio (direct or through a coast radio station), sighting and reporting of distress or other emergency signals, or report of distress by 999 emergency telephone call. In every case, the MRCC or MRSC receiving the initial distress automatically becomes coordinating station for the incident, and takes action as in the paragraph above.

### Automatic Ship Identification System (AIRS)

An automatic ship identification and ship reporting system (AIRS) has been established to monitor the movements of vessels around the British Isles including the Dover Strait. It uses a transponder system based on VHF Digital Selective Calling (DSC) channel 70.

The system utilizes the capability of the VHF DSC installations adopted for the Global Marine Distress and Safety System (GMDSS) to decode interrogation calls addressed to specific geographical areas and the ability to interface automatic radio position fixing systems such as GPS or GLONASS with these installations. AIRS operates through UK Coastguard VHF DSC stations transmitting DSC interrogation calls addressed to coordinates in a pre-defined

geographical area on VHF channel 70 (156.525 MHz) requesting vessels in this area to respond with certain information. The information requested can include position, vessel type, length, draft, next port of call, course, speed, and whether the vessel is not under command or constrained by draft.

While AIRS is designed to be used by any vessel equipped with a GMDSS VHF DSC radio installation, most existing onboard equipment would need to be modified so that it conforms with the International Telecommunications Union Radiocommunication Sector. In many cases, this facility is provided by the manufacturer and may only require activation. All vessels are encouraged to modify their existing VHF DSC installations to provide the AIRS facility. The installation will still comply with GMDSS carriage requirements. Ships provided with GMDSS VHF DSC facilities that support AIRS should first contact the UK Coastguard. This will enable satisfactory operation to be confirmed.

Further information may be obtained from the Navigation and Communication Branch, Maritime and Coastguard Agency, Bay 2/23, Spring Place, 105 Commercial Road, Southampton SO15 1EG, England.

### Signals

The display of a visual gale warning signal indicates that a gale is expected within 12 hours, or is already in progress, in the coastal area on the landward boundary of which the station flying the cone is situated.

The cone signal will be lowered when the wind is below gale force and a renewal of gale force winds is not expected within 6 hours, so that the cone signal is left flying during a temporary abatement of a gale if a renewal is expected.

The coastal sea areas are those designated for use in the weather reports for shipping and for dissemination through the medium of the BBC and GPO coast radio stations broadcasts which about the coasts of the United Kingdom.

The warning signals are, as follows:

1. By day—A black or a white cone, 1m high and 1m wide at the base.
2. By night—Three lights in the form of a triangle, 1m wide at the base.

The N cone (point up) is hoisted for gales from any point north of the E-W. The S cone (point down) is hoisted for gales from any point S of the E-W line.

When the direction of the gale is expected to change from the N side to the S side of the E-W line, the N cone is lowered and the S cone hoisted. Conversely, when the direction of the gale is expected to change from the S side to the N side of the E-W line the cone is changed accordingly.

Inshore mariners, for whose benefit the visual gale warning service is primarily intended, are advised that a cone signal now relates solely to the operation of a local sea area gale warning. Information given by these cone signals is to be regarded only as supplementary to the more detailed weather bulletins for shipping which are regularly broadcast from the BBC and GPO radio transmitters.

### Traffic and Tidal Signals

Most British ports use a form of the International Traffic and Tidal Signals which may vary to the specific need of the

individual harbors. In general, tidal locks and basins display these type signals to indicate entrance depths and traffic conditions and specific details are published in the appropriate volume of Sailing Directions (Enroute) for the area.

## Submarine Operating Areas

The British Admiralty indicates that British submarines may be met day or night while operating in any of the waters of the British Isles, but most particularly in the vicinity of the ports of Clyde, North Channel, Minches, Plymouth, and Barrow. Submarines may be surfaced or submerged, operating independently or with surface ships or aircraft.

It must not be inferred from the above that submarines exercise only when in company with escorting vessels. The notice "Submarine Exercise Area" on certain charts should not be read to mean that submarines do not exercise outside such areas. Warnings that submarines are exercising in specified areas will be broadcast by a British Telecom coast radio station.

## Submarine Indicator Buoys

British submarines are fitted with two indicator buoys, one at each end of the ship, which can be released from inside in case of emergency or if for any reason the submarine is unable to surface. A description of the indicator buoy is given below.

### Type 0070

The buoy is made of expanded plastic foam covered with a 3 mm thick GRP skin for physical protection. It is semi-spherical in shape, 76 cm in diameter and 90 cm deep.

Anchorage for the 5 mm braided nylon rope mooring at the bottom of the buoy is slightly offset from the center.

The buoy floats end up with a freeboard of about 15 cm in slack water. It is covered with longitudinal strips of reflective tape alternately red and white. For identification purposes each buoy is allocated a three digit serial number which is displayed on each side under the words "Forward" or "Aft."

Also inscribed around the top of the buoy are the words: "FINDER INFORM NAVY, COASTGUARD OR POLICE. DO NOT SECURE TO OR TOUCH."

A program is in place to change the color scheme of these indicator buoys to a uniform international orange. The other wording will remain the same. It is possible that either type may be encountered.

A light which flashes approximately every 2 seconds, over a period of about 72 hours, is mounted in the center of the top surface. In darkness and during good weather, the unassisted visibility of the light is 5 miles.

The buoy carries HF and UHF whip aerials (168 cm and 100 cm long respectively) and is fitted with two automatic transmitting radio units which operate on 8364 kHz and 243.0 MHz. The transmitters are automatically activated when the indicator buoy is released and their transmission sequences are, as follows:

- a. HF Transmitter.
- b. 3 figure serial number, 3 times, 21-30 seconds.
- c. 120 second silent period (plus/minus 5s).
- d. 3 figure serial number, 3 times, 21-30 seconds.
- e. SOS, 6 times, 27 seconds.
- f. SUBSUNK, 3 times, 36 seconds.

- g. Long D/F mark, once, 30 seconds.

The message will then be repeated from giving a total transmitting sequence of 6 minutes duration. There will then be a silent period for 2 minutes before the whole sequence recommences. The transmissions will continue for a minimum of 72 hours.

The UHF emission will consist of 3 audio sweeps from 1600 Hz down to not lower than 300 Hz, occupying a period of 1.2 seconds. The emission will then be silent for 0.8 second. The transmission duration should continue for a minimum of 72 hours.

## Visual Signals

The following signals may frequently be met with in areas where British Ships and Aircraft exercise, whether or not submarines are present, and should not be confused with submarine indicator buoys.

In case of doubt the object should be approached to confirm, visually, whether or not it is a submarine indicator buoy before reporting it.

## White Smoke Candles

These are fired from submarines to indicate their position. They burn for up to 10 minutes emitting white smoke and flame and can thus be seen by day or night; they can easily be confused with aircraft marine markers and floats, smoke and flame. The candle can also give off a yellowish-green dye indicating that a message is attached.

## Yellow Smoke Candles

These are fired from submarines to indicate their position. They burn for about 5 minutes emitting yellow smoke.

They can be seen more easily than the white smoke candles in rough weather, but cannot be seen at night.

## Sonobuoys

These are dropped from aircraft to detect submarines and may be encountered anywhere at sea.

## Smoke and Flame Flares and Marine Markers

These are dropped from aircraft to aid in search operations. They burn for varying durations. Other versions are in service and may be encountered.

British vessels fly the appropriate group of the International Code of signals to denote that submarines, which may be submerged, are in the vicinity. Vessels are cautioned to steer so as to give a wide berth to any vessel flying this signal.

If from any cause it is necessary to approach the vessel, a good lookout must be kept for submarines whose presence may be indicated only by their periscopes or snorts showing above the water.

A submarine submerged at a depth too great to show the periscope may sometimes indicate the position by red and white or red and yellow buffs or floats, which tow on the surface close astern.

Submerged submarines also use white or yellow smoke candles, or yellow and green pyrotechnic flares to indicate their positions in response to requests from surface ships or aircraft or as required. Red pyrotechnic flares are released to indicate emergency surfacing procedures are in effect and all vessels in the vicinity should clear the immediate area at once without

stopping their propellers and thence standby at a distance to render assistance.

Two white or yellow smoke candles released singly about 3 minutes apart indicate the submarine is preparing to surface.

Vessels should clear area immediately without stopping propellers.

### **Distress Signals**

A bottomed submarine which is unable to surface will try to indicate its position by the following methods:

1. Releasing an indicator buoy (which carries a vertical whip aerial) as soon as the accident occurs.
2. On the approach of surface vessels and at regular intervals by firing candles giving off a red flame and white smoke or just yellow smoke.

If the red pyrotechnic flare signal is sighted and the submarine does not surface within 5 minutes, it should be assumed that the submarine is in distress and has sunk.

An immediate attempt should be made to fix the position in which the signal was sighted, after which action in accordance with emergency reported procedures should be taken.

It should be remembered that it may be impossible for a submarine to fire its smoke candles. Correspondingly a partially flooded submarine may have only a certain number of its smoke candles available and searching ships should not therefore expect many to appear.

Some submarine pyrotechnics can be fitted with message carriers. If a message has been attached, the pyrotechnic will be fitted with a dye marker, giving off a yellowish-green dye on the surface. Such a pyrotechnic should be recovered as soon as it has finished burning.

Since oil slicks or debris may be the only indication of the presence or whereabouts of the sunken submarine, it is vitally important that surface ships refrain from discharging anything which might appear to have come from a submarine while they are in the submarine probability area. Searching ships and aircraft can waste many valuable hours investigating these false contacts.

In any submarine accident, time is the most vital factor affecting the chances of rescue of survivors, and as the sighting of an indicator buoy may be the first intimation that an accident has in fact occurred, it is vital that no time should be lost in taking action.

The sighting of an indicator buoy or other submarine distress signal should be reported by the quickest available means to the Navy, Coast Guard, or Police. However, if vessels are unable to establish communications without leaving the vicinity of the submarine, it should be borne in mind that the primary consideration should be for vessels to remain standing by to rescue survivors and not leave the scene of the accident.

Every effort should be made to include in the report the serial number of the buoy; this number is affixed below the word "Forward" or "Aft."

Indicator buoys are attached to the submarine by a 1,000m braided line. Buoys found in areas where the depth of water is less than 1,000m may be secured to a sunken submarine. In areas where strong tidal streams or currents are prevalent the depth from which the buoy may be expected to watch is considerably reduced and in these areas it is possible that a buoy may only watch at slack tide.

It is possible that indicator buoys may break adrift accidentally even though the parent submarine may not have sunk, similarly a buoy found to be adrift is not necessarily an indication that all is well since it may have broken adrift after being deliberately released following an accident.

In any case it is therefore important to establish whether or not the buoy is adrift and it is considered that the only practical means of determining movement is by observing its behavior in a tidal stream or seaway, or periodically fixing its position.

In any event, it is absolutely vital that the mooring wire is not parted, nor any tension applied to it. Boats should not secure to it.

The preferred method of saving the lives of personnel in a sunken submarine is by rescue. This involves the use of specialized submersible and support craft, and is likely to take a considerable period of time before they can all arrive at the scene of the accident. The first assisting personnel on the scene are likely to be parachuted in with their own inflatable boats. Once a rescue operation gets underway, it is vital that vessels not involved keep well clear. Most submarines are now fitted to receive rescue vehicles, but for those that are not, escape is the only option.

At any time between the accident and the arrival of assisting or rescue forces, conditions in the bottomed submarine may deteriorate to the point where the crew have to escape. The precise time at which an escape may be conducted will not be known in the early stages of any operation, and thus it is important that any ship finding an indicator buoy should stand by ready to receive escapees until relieved by naval forces.

In order that those trapped in the submarine know that help is at hand, naval vessels drop patterns of very small explosive charges, the meanings of which are known to the submarine. Rather than do this, other vessels can indicate their presence by the intermittent running of an echo sounder on high power, or by banging on the outer skin of an underwater portion of the ship's hull with a hammer. Such sounds are likely to be heard by the submarine and should be carried out at frequent intervals. The submarine may, if possible, acknowledge this by releasing a flare which gives off a flame or smoke once reaching the surface. Once naval forces arrive, such noisemaking should be stopped so as not to interfere with other underwater communications.

If the escape option is started, escapees will ascend nearly vertically from the bottomed submarine, either individually or in small groups. On arrival at the surface, they may be exhausted or ill, and the presence of an already lowered boat to assist in their recovery is very desirable. Some men may require recompression treatment, and naval authorities will aim to get such recompression chambers to the scene as soon as possible.

Naval authorities are always ready to put an escape and rescue operation into effect, but it remains clear that any vessel finding evidence of a submarine disaster may be in a unique position to assist lifesaving by taking prompt action as described above.

### **Navigation Lights**

The masthead and side lights of British submarines are placed well forward and very low over the water in proportion to the length and tonnage of these vessels. Stern lights are

placed very low and may at times be partially obscured by spray and wash. They are invariably lower than the sidelights.

While at anchor or a buoy by night submarines display an all-round white light amidships in addition to the normal anchor lights. The after anchor light of nuclear submarines is mounted on the upper rudder which is some distance astern of the hull's surface waterline. Care must be taken to avoid confusion with two separate vessels of less than 50m in length.

The overall arrangement of submarine lights are unusual and may well give the impression of markedly smaller and shorter vessels than they are.

Their vulnerability to collision when proceeding on the surface and the fact that some submarines are nuclear powered dictates particular caution when approaching them.

Some submarines are fitted with an amber quick-flashing light situated about 1 to 2m above the after steaming light.

This additional light is for use as an aid to identification in narrow waters and areas of dense traffic. The rate of flash of the submarine fitted light is 90 to 105 flashes per minute this should not be confused with a similar light used by hovercraft currently with a rate of 120 flashes per minute.

Certain submarines of the Royal Navy are fitted with quick-flashing amber anti-collision lights. These lights flash at between 90 and 105 flashes per minute and, due to the configurations of the various classes, are fitted above or below the steaming light.

The showing of one of these quick-flashing lights is intended to indicate to an approaching vessel the need for added caution rather than to give immediate identification of the type of vessel exhibiting such lights. Subsequent identification of submarine or hovercraft can usually be made by observation.

### Limits of Areas

British submarines operate in numerous areas off the coast of Scotland, the coast of Northern Ireland, and the W coast of England. Submarine operating areas are shown on a special series of charts (PEXA charts) published by the British Hydrographic Department.

Submarines also operate in the Firth of Lorne (56°18'N., 5°47'W.), The Minches (58°00'N., 6°00'W.), and the approaches to Belfast Lough (54°46'N., 5°30'W.).

Submarines operate frequently in the SW approaches to the English Channel and the Bristol Channel, S of 50°30'N and E of 10°00'W. A good lookout should be kept for them when passing through these waters.

### Time Zone

The Time Zone description is UTC.

## U.S. Embassy

The embassy is situated at 24/31 Grosvenor Square, London W. 1A1AE. The mailing address is PSC 801, Box 40 FPO AE 09498-4040.

Consulates general are located in Belfast and Edinburgh.

## Wrecks

As promulgated by U.K. authorities, the Protection of Wrecks Act (1973), enables the Secretary of State to make orders to protect certain wreck sites in United Kingdom waters from unauthorized interference on account of either:

1. Their historic, archaeological or artistic importance or
2. Their potentially dangerous condition

In the case of historic wrecks as in 1 above, "unauthorized interference" includes tampering with, damaging or removing any part of a wreck within the area indicated, or carrying out diving or salvage operations within the area without a special license issued by the Secretary of State.

In dangerous condition as at 2 above, entry into the area is prohibited.

The wreck sites are shown in magenta on NIMA charts. Anyone convicted under the terms of this Act will be liable to a fine not exceeding 1,000 pounds sterling.

There are 37 historic wrecks within the waters of the UK. under this Act. They have been declared restricted on account of the historical and archaeological importance of these sites.

The stranded wreck Richard Montgomery (51°27.9'N., 00°47.2'E.) has been declared a prohibited area due to explosives contained within the wreck.

There are over 2,000 wrecks in the English Channel area and although the least depth over the most critical ones has been obtained by wire sweep, experience shows that unknown wrecks, most of vessels sunk in the two world wars, do sometimes exist in the vicinity of the shipping lanes, since a number or previously unknown wrecks have been found in recent surveys.

Sonar searches to locate wrecks are carried out simultaneously with modern surveys, but sonar conditions in the area are particularly bad and wrecks may also be screened by sandbanks making their location difficult. In addition, wrecks previously covered by sand may become uncovered in newly formed navigational channels.

Strong tidal currents cause deep scouring close to wrecks, which may sometimes capsize into the scour. In most cases this results in a greater depth over the wreck, but a decrease of depth from this cause can sometimes occur.